

MANAGING GROWTH IN NEW HAMPSHIRE:

Changes & Challenges

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in conjunction with

The Growth Management Advisory Committee

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CHAPTER 1*Introduction*

The New Hampshire General Court (House Bill 207, Chapter 19, Laws of 1999) directed the New Hampshire Office of State Planning (OSP) to study how growth trends are affecting land development patterns in New Hampshire. This legislation stipulated the following:

The study shall examine the effects of sprawl on the economy, taxes, loss of open space, air quality, water quality, wildlife habitat, community identity and quality of life. The study shall make recommendations on local, regional and state growth management and associated legislative initiatives. (HB 207)

OSP formed a Growth Management Committee in August 1999 to help examine the effects of sprawl development in the state, and advise the Legislature on managing growth. The 27-member committee included individuals with a wide range of expertise and experience in areas such as law, architecture, natural resources, real estate development, retail operations, municipal planning, historic preservation, economic development, and transportation.

RKG Associates, Inc. of Durham, New Hampshire and Sherman, Greiner, Halle of Concord, New Hampshire were retained by OSP in December 1999, to assist with this study.

Over eight months, the members of the Growth Management Committee reviewed an extensive array of information about the impacts of growth and planning activities in New Hampshire. The members discussed, debated, and carefully evaluated the implications of current land development trends in the state.

The members of the Committee recognize the challenges facing communities in New Hampshire in preparing plans and regulations to guide growth, while respecting the rights of property owners. Current and future growth trends will not make it easier to balance competing community needs. Those communities approaching full build-out—primarily in the southern tier of the state—will find the process of managing growth increasingly difficult.

This report recommends ways to improve our state's ability to meet these challenges.

- 1) Communities need expanded capabilities to plan for growth.
- 2) Changing land development patterns require increasing regional collaboration to manage growth.
- 3) The enactment and funding of the Land and Community Heritage Investment Program is an important first step in protecting the natural and historic character of the state, but maintaining the unique character of New Hampshire requires additional actions by local governments, nonprofit organizations, and private land owners.
- 4) State government can do better in coordinating efforts to guide development and assist communities in coping with the challenges of managing growth.

The next three chapters of this report present the results of this study:

- 2: **The Changing Role of State Governments in Growth Management** reviews approaches used by state governments, including New Hampshire, to manage growth and development.
- 3: **Changes in New Hampshire's Growth and Development Patterns** examines different methods for defining sprawl-related development in New Hampshire. Four case studies describe land development patterns in neighboring communities from around the state.
- 4: **Conclusions and Recommendations: Challenges for the Future** assesses existing development trends and their implications for New Hampshire, and recommends ways to address the challenges of future growth and development.

This report on Managing Growth in New Hampshire is not intended as a technical document for local planning boards and officials in dealing with sprawl. Rather, this report suggests legislative and other actions needed for the residents of New Hampshire, acting through their state and local governments, to cope more effectively with the challenges presented by growth and development. Providing technical assistance to communities will be an important part of implementing some of the recommendations in this report.

CHAPTER 2

The Changing Role of State Governments in Growth Management

State governments have long been involved in policies and programs relating to growth and development. But the concept has generally been more implied than direct, and efforts have focused primarily on promoting economic development. Questions were first raised during the 1960s in a number of states about the environmental impacts of development, the rapidly increasing cost of municipal improvements, and the physical decline of urban centers. This chapter briefly examines how state governments have become more directly involved in managing growth, and how these efforts have changed over the past several decades.

Early Growth Management Responses

A number of states began in the early 1970s to develop explicit growth management strategies. Some states focused on articulating statewide goals for future development, with specific objectives and responsibilities for state and local government. Growth management efforts in other states determined various growth alternatives, usually on a regional basis, and then identified policies and actions to achieve a specific growth scenario. A few states focused on citizen-based growth management, involving grassroots efforts to identify possible impacts of development and persuade local governments and residents to take a more proactive approach to land use development planning.

Some writers have noted the wide range of concerns raised in states' 1970s efforts to articulate growth management strategies:¹

- The increasing concentration of population in metropolitan areas and the concurrent depopulation of rural areas;
- The acceleration of suburban sprawl and the decline of core cities;
- Environmental degradation that accompanied rapid or haphazard development;
- Lack of requirements for land use planning in areas of critical environmental concern;
- The economic and racial segregation associated with existing settlement patterns; and
- The transportation and energy requirements of traditional development trends.

1 H. Milton Patton & Janet W. Patton, "Harbinger of State Growth Policies" in *Management and Control of Growth*, The Urban Land Institute, 1975, page 320.

State government involvement in managing growth increased substantially during the 1970s. By 1975 at least 20 states had new environmentally oriented land use laws, and 37 states had new programs of statewide planning or regional level regulation.² Some of the key state initiatives during this time period are described below.

- The state of **Oregon** adopted one of the nation's first statewide comprehensive planning statutes, the Land Use Planning Act of 1973. This statute established 19 mandatory planning goals to guide municipal planning efforts, including requiring an "urban growth boundary" to separate significant urban and rural types of land uses. The legislation also required local land use plans to consider forms of transportation other than the automobile. In 1991, new state legislation was adopted requiring communities to consider land use changes that would reduce dependence on the automobile.
- **Florida** - Concerns about the impacts of rapid development on land and water resources led to enactment of a wide range of planning and development legislation in Florida during the early 1970s. The Environmental Land and Water Management Act mandated procedures to protect areas of critical concerns (i.e., sensitive environmental areas), and established state review of development proposals determined to have regional impacts. Other statutes required a statewide long-range comprehensive plan and authorized state purchase of sensitive lands. In 1975 the Local Comprehensive Planning Act mandated adoption of local land use plans. A state agency was authorized to review and comment on all local land use plans, but the state could not change local plans.
- **Vermont** - Adoption of Act 250 in 1970 established Vermont's procedure for evaluating regional impacts of specific types of development proposals. Commercial and industrial proposals on more than one acre, construction of more than 10 housing units, subdivision of land into more than 10 lots, or substantial changes to existing developments, all required regional (district) and possibly state approval under Act 250. When Act 250 was adopted, a statewide land use plan was expected to be adopted to guide the approval process. However, a statewide land use plan has never been completed.

In New Hampshire during this period, a group of citizens established the *Forum on New Hampshire's Future* to collect, analyze, and disseminate information on the impacts of growth and development on cities and towns across the state. The New Hampshire General Court established a Growth Subcommittee in 1977, and an Advisory Council on Growth was established by Executive Order in October 1979. The latter effort resulted in the 1981 publication, *The Final Report of the Governor's Advisory Council on Growth*.

This report identified goals, policies, and recommendations to improve " . . . the effectiveness and ability of New Hampshire state and local government to respond to the challenges and problems of rapid growth."³ Key findings included the following needs:

2 Jerry Weitz, *Sprawl Busting: State Programs to Guide Growth*, American Planning Association, 1999, page 26.

3 *The Final Report of the Governor's Advisory Council on Growth*, State of New Hampshire, January 1981.

- Reorganize specific state government agencies in order to deal with rapidly changing conditions.
- Improve the working relationship between state and local government in order to expand the ability of local government to respond to the problems of rapid growth.
- Protect and enhance those characteristics that make New Hampshire unique. Key areas of concern included: revitalization of declining downtowns; preservation of structures and areas of historical significance; protection of fragile environmental and agricultural areas; and promotion of small business expansion.
- Improve the collection and dissemination of data and information dealing with growth and development activities.

Changing economic and fiscal conditions across the country in the 1980s diminished public concerns about the consequences of rapid growth and development. During the recession of the early 1980s many communities and states, especially in the northeast, became more concerned about promoting new development to increase employment opportunities and personal incomes. Awareness and concerns about the impacts of growth and development at the state and local levels of government rose and fell with the economic cycles of the last twenty years, increasing dramatically during the boom of the last half of the 1990s.

Growth Management: The Next Wave

As the economy in the United States began to improve into the mid-1990s, people began to reexamine various impacts associated with growth and development. Concerns were raised in an increasing number of communities about the negative impacts of growth—including traffic congestion, loss of open space, environmental degradation, and possible long-term adverse financial impacts on local communities. The appropriateness of prevalent development patterns was questioned, especially in suburban communities and small towns.

Architects, environmentalists, land planners, and other individuals began to identify new approaches for accommodating growth based on a different set of development principles. 'Sustainable development' and 'smart growth' began to be used to describe new approaches to development that aimed to minimize the negative effects associated with older, traditional types of development. As in the case of sprawl, consensus on a succinct definition of these concepts has not been achieved. These terms have been defined and redefined to meet the needs and agendas of different organizations and individuals. As a result, using these terms often hinders rather than promotes understanding of alternative development concepts.

For this report, sustainable development is defined as a development process that promotes economic prosperity while enhancing social equity and protecting ecological integrity. Smart growth represents a means to achieve sustainable development, and is often defined as an interconnecting system of principles used to describe specific land development activities. A report prepared for the American Planning Association identifies the following principles as key elements of smart growth.⁴

- **Effective Use of Land Resources** - Use more compact and infill development in order to preserve land and natural resources. This type of development pattern would also lessen dependence on the automobile, and thus reduce energy consumption and air pollution. More compact development patterns would also use infrastructure resources more cost-effectively than traditional development patterns.
- **Full Use of Urban Services** - Encourage creation of neighborhoods that allow more people to use existing municipal services such as water lines, sewers, roads, emergency services, and schools. A key focus of this approach involves more careful sizing of streets and parking areas to reduce development and maintenance costs, and protect important adjacent environmental characteristics.
- **Mix of Uses** - Promote a wide variety of land uses, such as stores, residences, schools, and recreation spaces within walking distance of each other in compact neighborhoods served by pedestrian-oriented streets. This mixed use approach also encourages the development of a variety of housing choices for young and old, singles and families, and different economic groups.
- **Transportation Options** - Creating safe, convenient, and interesting transportation alternatives is a hallmark of smart growth. This involves developing a connected network of streets providing options for walking and biking. Mass transit options should also be promoted as an alternative to the private automobile where feasible.
- **Detailed, Human-Scale Design** - Gaining community acceptance of compact mixed-use development requires revising design requirements dealing with the compatibility of buildings to ensure privacy, safety, and visual coherency. Changes will need to be made to development regulations dealing with factors such as the massing of structures, orientation of buildings to streets, and landscaping. Careful attention must be directed to the layout of streets and sidewalks to provide an increased sense of pedestrian safety.
- **Implementation** - Achieving the smart growth principles outlined above requires changing the process used by communities to review and approve development proposals. For example, the land use review process should be streamlined to encourage private investment in the application of these new design principles. Time-consuming, costly, and inflexible development standards are a barrier to innovative development proposals. New regulations should be flexible in application and provide a degree of certainty in terms of standards and the approval process. Specific design review standards should be incorporated in the approval process.

4 These concepts are based on a report entitled *The Principles of Smart Development*, Planning Advisory Service Report Number 479, American Planning Association, September 1998.

Other organizations such as the National Association of Home Builders, the Sierra Club and the Urban Land Institute have also identified smart growth principles. The principles identified by these groups include most of the items described above, as well as other factors dealing with concerns such as the need for a long term municipal comprehensive plan, the identification of land areas for future growth and the need to coordinate development activities with land use, transportation, and infrastructure decision-making.

Other States Seek Smarter Growth

State governments across the nation have begun to evaluate development patterns in response to concerns about the impacts of growth, and to discuss smart growth and other alternative land development concepts. In 1997 the Governor of Pennsylvania created the 21st Century Environmental Commission. In 1998 the Commission identified land use as the foremost environmental issue confronting the state, and noted, "Among all these urgent matters...we give top priority to the challenge of promoting responsible land use." The Commission also noted that "Promoting environmental stewardship may be the most important issue, but correcting our land use patterns is the most pressing."⁵

Arizona created the Growing Smarter Commission in 1998. The Commission's final report of September 1999 addressed issues including impact fees, service area limits, private property rights, voting on municipal plans, and rural economic development. The Commission also urged managing growth through incentives, rather than mandatory regulations or creating new layers of government.

In Delaware concerns about land development patterns prompted the Governor's Cabinet Committee on State Planning Issues to report in December 1999 on *Shaping Delaware's Future: Managing Growth in 21st Century Delaware*. "Over the last four decades [Delaware] has shifted from a place with strong vibrant cities and towns supported by a thriving rural sector to a sprawling suburban place whose overall quality of life and rural economy are in danger," the report stated. "The trend is likely to continue, unless steps are taken now to better manage the state's inevitable population growth." The Cabinet Committee adopted a series of development goals for "Shaping Delaware's Future," based on analysis of growth and development trends. Key strategies for achieving these goals include:

- State spending should promote quality and efficiency - not sprawl;
- State policies should foster order and resource protection, not degradation;
- The state must support local efforts to manage growth;
- The strategies require all levels of government to work together.

New Hampshire Looks at Managing Growth

New Hampshire state government has also recognized the need to examine and improve growth management practices. In 1998 the New Hampshire General Court established a Land Use Management and Farmland Preservation Study Committee⁶ to examine "...ways to keep what is left of New Hampshire's typical rural landscape with its farmland, forests and wildlife habitat, its country villages and its town centers, but at the same time to provide for inevitable growth by carefully planning its location and character." The Committee recommended these strategies for improving New Hampshire's ability to manage growth and development:

- Reach out to local communities with information on the cost of sprawl, its causes and cures;
- Encourage and assist towns and cities to make careful plans for growth control that emphasize open space and revitalized downtowns, and that encourage denser development closer to their centers by regulations that make such development attractive to developers;
- Direct state agencies to consider the goals of preventing sprawl in the conduct of their daily business;
- Provide state incentives for this planning by directing state aid or tax abatements to those towns with appropriate growth control plans;
- Revise agency rules and regulations to implement the goals identified in the Committee's report.

On February 4, 1999 Governor Shaheen issued Executive Order 99-2 recognizing the need to protect and preserve "... New Hampshire's traditional communities and landscapes." The Governor directed the Council on Resources and Development (CORD) to prepare "... an inventory of [state] agency actions currently underway which promote the retention of our traditional communities and landscape. . ." and "... examine ways in which their current programs, rules, regulations and granting programs might be improved . . ."

As noted in the previous chapter, the New Hampshire Office of State Planning released its *Report to Governor Shaheen on Sprawl* in December 1999. This study was prepared in response to the Governor's Executive Order directing state agencies to evaluate the effects of their actions on protecting New Hampshire's traditional communities and landscapes. The report noted the following observations.

We are currently growing at a rate approaching 15,000 people each year. This adds vibrancy to New Hampshire. It adds jobs. It brings new ideas. It creates new economic opportunity. It also brings changes to our communities, and converts lands that were once undeveloped or used for agriculture and forestry to more intensive uses. The issue is not one of growth itself. Rather it is the nature, location, and manner of our current growth that is of concern. How can we grow, and still maintain our traditional communities and landscapes?

This concern falls under many broad headings. Some call the results of unmanaged growth sprawl. Others aim at the process of dealing with the forces of development, and call for smart growth or managed growth. By whatever name, the underlying concern is that the result of unmanaged growth has all

too frequently presented us with a landscape that is foreign to the scale and traditions of New Hampshire. (Page 1)

After evaluating the policies and programs of various state agencies, the report recommended these actions:

- **Office Siting** - In an attempt to support downtown revitalization efforts, state agencies should seek to locate their offices in downtown areas and in existing buildings wherever practical.
- **Agency Policy** - The state should develop an overall policy on sprawl, and encourage individual agencies to reflect this policy in their individual mission statements.
- **Agency Grants** - In providing grants, technical assistance, education, and other assistance to communities and other entities, agencies should give priority to projects that strengthen village centers and downtown areas.
- **Agency Rules** - Agencies should evaluate outcomes of rules made to achieve their primary missions, to determine if they may inadvertently be leading others into actions which may contribute to sprawl, and if so, explore alternatives where feasible.
- **Transportation** - Agencies should support NH Department of Transportation efforts to encourage the development of integrated corridor management plans at the community level, and undertake proactive programs of their own to encourage more efficient travel and transportation by their employees.

During the 2000 session the New Hampshire Legislature enacted a bill (House Bill 1259, Chapter Law 292) that incorporated the smart growth concept into several existing statutes. The statute defining the duties of the New Hampshire Office of State Planning (OSP) was amended to authorize OSP to "Take a leadership role in encouraging smart growth and preserving farmland, open space land and traditional village centers." (RSA 4-C:1,II(j)) OSP is also required to include an evaluation of the impact of smart growth in its report on state economic development programs and grants (RSA 4-C:6a,I(c)).

A new "State Economic Growth, Resource Protection and Planning Policy" statute (Chapter 9-B) was also passed in 2000. This statute declares, "It shall be the policy of the state of New Hampshire that state agencies act in ways that encourage smart growth." This statute defines smart growth as:

The control of haphazard and unplanned development and the use of land which results, over time, in the inflation of the amount of land used per unit of human development, and of the degree of dispersal between such land areas. 'Smart growth' also means the development and use of land in such a manner that its physical, visual, or audible consequences are appropriate to the traditional and historic New Hampshire landscape. Smart growth may include denser development of existing communities, encouragement of mixed uses in such communities, the protection of villages and planning so as to create ease of movement within and among communities. Smart growth preserves the integrity of open space, agricultural, forested and undeveloped areas (9-B:3)."

The Council on Resources and Development (CORD) is also to report annually to the Legislature and Governor on smart growth activities and progress (RSA 292:9-IX).

The New Hampshire, Pennsylvania, Arizona, and Delaware examples represent the debates on growth and development occurring across the nation. Many other state governments have commissioned similar studies and legislative reports on the impacts of rapid growth and development. Governors have issued executive orders delineating policy goals and objectives for state agencies charged with managing programs that influence land development.

However, studies that analyze impacts and recommend changes in state policies will not by themselves significantly alter current development patterns, or preserve the attributes valued by state residents. Changing how land is developed and used will require legislation at the state and local levels.

This study researched and evaluated legislative options for dealing more effectively with growth and development. Recent state legislative initiatives across the country designed to alter land development patterns or protect existing resources were identified and reviewed. Growth management initiatives adopted by various states were grouped in categories to describe options for consideration by the New Hampshire Legislature.

Acquisition of Property or Easements

State governments have an extensive history of acquiring property, or an interest in property, for open space protection and conservation purposes. In the past five years several new programs were initiated to conserve land with special or unique agricultural, environmental, historical, or recreational values. An estimated 43 states have enacted some type of land and/or easement acquisition program.

New Hampshire has appropriated funds by issuing general obligation bonds to acquire property for state parks. Bond funds have also been used to acquire the development rights of agricultural land in 1981 and 1985, and to fund the Land Conservation Investment Program (1987, 1991). In 2000 the New Hampshire Legislature adopted, and the Governor signed into law an act establishing the Land and Community Heritage Investment Program (RSA 227-M). Approximately \$3 million was authorized to establish this program.

Recent examples of property acquisition programs in other states are noted below.

- **Arizona** - In 1998 voters approved spending \$220 million in general fund revenues to acquire open space land. State funds pay for 50% of the cost of acquisition, with the balance provided by local governments or nonprofit organizations.
- **New Jersey** - A constitutional amendment enacted in 1998 authorizes the use of sales tax revenue to acquire conservation, recreation, and agricultural lands. This legislation provides up to \$98 million annually for 10 years to the Garden State Preservation Trust Fund. This organization is also authorized to issue \$1 billion in revenue bonds.
- **Utah** - In 1998 Utah created the Critical Lands Conservation Revolving Loan Fund. The Fund was capitalized by a \$100,000 state appropriation for use by local governments and nonprofit organizations to acquire easements. State funds are limited to 50% of total project costs. The Fund can also accept donations, as well as proceeds from the sale of surplus state lands.
- **New York** - The 1996 Clean Water and Clean Air Bond Act authorized \$1.75 billion to promote economic growth in the state by combating pollution problems. Nearly \$25 million of this total was in a joint effort to acquire 144,000 acres in the Adirondack Mountains.
- **Georgia** - Georgia created the Community Greenspace Initiative with the goal of preserving 20% of the state's open space land. In 2000 the program allocated \$30 million in state funds to the 40 fastest-growing counties in the state. To participate counties must submit a plan indicating how they will permanently protect 20% of the land in the county from development.
- **Methods of Financing** - Acquisition of property or some form of easement has become one of the most frequently used methods employed by state governments to deal with some of the impacts of rapid growth and development. Methods used to finance these programs include direct appropriations; real estate transfer taxes; hunting license fees; general obligation and

revenue bonds; environmental pollution settlements; environmental penalty fines; and budget surplus.

Infrastructure and Development Investments

A number of states are trying to protect and preserve open space by encouraging new development in areas that are already partially developed. Some state governments are making capital investments in schools, highways, mass transit, and sewer and water facilities in areas designated as growth areas by state and local officials. States are also providing funds to clean up environmentally contaminated sites in urban areas to encourage infill and redevelopment activities. Some examples of these initiatives are outlined below.

- **Maryland** - Maryland's Smart Growth Areas Act of 1997 directs most state infrastructure, economic development, housing, and other state government program investments to specific priority funding areas. Locations that can support new growth, on the basis of specific guidelines, are designated as priority funding areas by state and municipal governments. These areas include central business districts, downtown core areas, and revitalization sites. This act also prohibits state government from funding growth-related projects (e.g., land acquisition, roads, bridges, transit, and water quality and supply systems) that are not located in priority funding areas.
- **Pennsylvania** - The Governor's 'Growing Greener' initiative included 1999 legislation to promote changes in statewide land use patterns by redirecting state funding to support priority programs such as protection of watersheds, preservation of open space, enhancement of parks, and reclamation of abandoned mines and wells. Over \$650 million will be allocated over the next five years through the state's Environmental Stewardship Fund, which includes incentives to communities to support infrastructure projects, enhance sound land use planning, and assist economically disadvantaged communities.
- **Missouri** - To support community redevelopment Missouri enacted a law that provides tax credits for rehabilitation of older homes, and for construction of new houses in urban centers and established suburbs. Eligibility will be based on the location of the property, rather than the income of the homeowner.
- **Michigan** - The Clean Michigan Initiatives enacted in 1988 provide \$243 million to clean up environmentally contaminated sites that have redevelopment potential. The state oversees cleanup efforts, and selects sites with consideration to community recommendations, the potential to create jobs and attract private investment, and the costs of remediation relative to economic benefits.
- **Kentucky** - In 1997 Kentucky initiated the Renaissance Alliance program to revitalize downtown centers. The state established guidelines and awarded \$8 million to 21 cities in 1999. Grants require a 20% community match, and are used for sidewalk repairs, utility relocation, and facade restoration.

Land Use Planning Requirements

A few states have begun to change their laws relating to the preparation, adoption, and coordination of local planning activities. In some cases, a state organization must approve land use plans. In others, local governments are required to work together to prepare and implement regional plans. Innovative approaches to land use planning include:

- **Tennessee** - The Growth Policy Mandate enacted by Tennessee in 1998 requires all counties and municipalities—except those operating under a metropolitan form of government—to prepare joint plans for urban growth. The plans must identify urban growth areas for each municipality in the county, designate sites in the county for future planned growth, and identify rural areas that will be preserved for agriculture, forest, recreation, and wildlife management. County and municipal governing bodies must ratify or reject plans. In the event of an impasse among the different units of local government, the Secretary of State appoints a panel to mediate any disputes. If local governments still cannot agree, the panel has authority to adopt a growth plan to resolve the impasse. Finally, a state organization must approve the growth management plan. Failure to comply with this planning mandate can limit county and municipal governments' eligibility for various state and federal grants, and powers of annexation and municipal incorporation.
- **Georgia** - In 1999 the state created the Georgia Regional Transportation Authority (GRTA). The agency's charge is to combat air pollution, traffic congestion, and sprawling development in the Atlanta metropolitan area. In effect, the GRTA must approve all significant transportation and land use developments in the Atlanta region. GRTA responsibilities include:
 - ♦ Plan, design, construct, operate, manage, and maintain all public transportation systems and air quality control installations.
 - ♦ Coordinate transportation planning among all state, regional, and local authorities.
 - ♦ Review and approve regional plans.
- **Minnesota** - The Community Based Planning Act of 1997 encourages counties (outside the Twin Cities metropolitan area, which comes under a different legislative mandate) to voluntarily prepare and implement comprehensive plans consistent with 11 goals outlined in the legislation. The state funds training, pilot projects, and local grants to encourage local planning. A state-created planning organization reviews completed comprehensive plans for consistency with the 11 identified state goals. Planning is optional, but once a community adopts a comprehensive plan all future decisions and ordinances must be consistent with the plan.
- **Maryland** - To encourage infill development and the reuse and preservation of older buildings, the legislature enacted the 'Smart Code' initiative in 2000. Based on a rehabilitation subcode developed in New Jersey, Smart Code aims to make redevelopment of older buildings easier and less expensive than under standard building codes, which are more appropriate for new construction. This approach should enhance opportunities to redevelop urban and downtown centers.
- **Massachusetts** - In 1990 the state created a regional planning and regulatory agency to implement a land use policy plan for Cape Cod. First adopted in 1991, the regional plan established standards for new development. All municipal land use plans must be consistent with the regional plan.

Other Approaches

Several states recently initiated research and marketing programs designed to influence private sector development actions. In an effort to promote infill development, Florida recently published a book containing more than 100 plans for homes and mixed-use buildings suitable for the developed urban fabric of the southeastern portion of the state. Maine has done market research to gauge the interest of potential home buyers in alternative types of housing developments.

CHAPTER 3

Changes in New Hampshire's Growth and Development Patterns

New Hampshire is a unique state. Although small in size, New Hampshire offers residents and visitors quick and easy access to a rich and varied landscape. The mountains, hills, seacoast, lakes, and river valleys define the natural character of the state. The working landscape of farms and forests are integral to its scenic and cultural heritage. The 234 cities and towns provide another key element of the Granite State's character. From small rural villages to larger urban centers, these communities exemplify diversity in how people use land for living, working, playing, and interacting with one another. The land use patterns of New Hampshire's cities and towns reflect a 300-year history of meeting the needs and aspirations of the people living and visiting here.

Many residents worry that growth in New Hampshire is not only changing land use patterns, but also the character of their communities. This changing character can be seen in the loss of open land, and declining village and town centers. In many areas, commercial developments along roadways cause community identities to visually bleed together. A common concern is that many communities in New Hampshire are starting to look alike, as distinctive characteristics of each city or town disappear in a blur of uniform commercial and residential development. The pace of growth and development, and the type and location of land use changes are raising concerns among residents.

Land development patterns were historically distinctive between urban and rural communities. As illustrated in Figure 1, the diversity and characteristics of development vary significantly from a rural community, such as a small New England village, to a large city. For example, the character of neighborhoods, building sizes, roadways, trails, and open space all change significantly as a community and its density are altered.

Over the last twenty years these distinctions between rural and urban areas have been disappearing. This blending of land uses results in growth patterns that bring a variety of new and different impacts—including traffic congestion, environmental degradation, tax increases, loss of open space, and higher costs of providing municipal services. These impacts are often collectively referred to as sprawl.

Sprawl has become an easy and quick way to describe unacceptable forms of development, but there is no consensus around what the term really means. This topic has aroused passions in recent years, and everyone has an opinion on what constitutes sprawl. Originally, sprawl was defined as fragmented, low-density, automobile-dependent suburban development on the fringe of cities.⁷ Another

7 See Anthony Downs "Some Realities About Sprawl and Urban Decline" in *Housing Policy Debate*, Vol 10, Number 4.

key element of this definition was the decline of the urban center. Some experts consider sprawl at a minimum to be unconstrained low-density development that jumps over developed areas in a 'leap-frog' fashion. But the definition of low density varies.⁸

Source: The Lexicon of the New Urbanism, Duany, Plater – Zyberk and Company. *Permission granted by Andres Duany.*

8 Miriam Wasserman, "Urban Sprawl" *New England Federal Reserve Bank Regional Review*, First Quarter, 2000, page 10.

Researcher Robert Burchell examined various studies and identified ten different characteristics cited for causing sprawl:⁹

- Unlimited outward expansion of development
- Low-density residential and commercial settlements
- Leapfrog development
- Fragmentation of the regulation of land use among many small localities
- Dominance of private automobiles for transportation
- Lack of centralized planning or control of land uses
- Widespread strip commercial development
- Great tax-base disparities among municipalities
- Segregation of types of land uses in different zones
- Reliance on trickle-down or filtering processes to provide housing to low income households

Defining the causes of sprawl is complicated. The Growth Management Committee determined that sprawl should not be identified simply as growth. Sprawl should be understood as a particular kind of growth that has certain negative impacts. The working definition the Growth Management Committee established for this study describes sprawl as a pattern of land use characterized by:

- Inefficient, lower-density use of land resources than seen in earlier development periods.
- Automobile dependency, traffic congestion, and higher highway expenditures.
- Development inconsistent with existing community design characteristics, in zones of single-uses, rather than mixed-use.

The remainder of this chapter attempts to evaluate sprawl in terms of impacts on New Hampshire communities. Various statewide data concerning land use, municipal expenditures, and transportation indicators are examined and other studies of growth and development in New Hampshire are reviewed. Aerial photos are used to evaluate local land use changes over the last two decades in different areas of the state.

Indicators of Sprawl

One objective of this study was to examine available data to determine its usefulness in identifying sprawl-related development patterns. Various state agencies collect substantial amounts of demographic, fiscal, and social data concerning municipalities across the state. Possible indicators investigated were changes in land use patterns, population and housing, municipal fiscal indicators, transportation indicators, and development design patterns. These areas were assessed because of commonly held assumptions that sprawl represents certain spatial or physical development patterns, often

9 Robert Burchell, *The Costs of Sprawl-Revisited*. Transportation Cooperative Research Program Report 39, Washington, D.C.: National Academy Press.

results in higher municipal expenditures, traffic congestion and automobile dependency, and unattractive development.

Changes in Land Use Patterns

An effective assessment of the spatial nature of sprawl requires evaluation of land use data over a reasonable period of time to determine possible changes in land uses. GRANIT, the geographic information system (GIS) for New Hampshire, contains statewide land use data. The system is administered by the University of New Hampshire Complex Systems Research Center in association with the Office of State Planning. The GRANIT system currently has statewide land use mapping—created by manipulating satellite imagery information—only for the early 1990s time period. A land use data set for the late 1990s is being created, but was not available in time for this study. Analysis of land use patterns in only one time period (the 1990s) was determined insufficient to understanding development in the state over the long-term.

Regional planning agencies across the state also collect land use data for regional planning efforts and periodic municipal master plans updates. But these data sets are not produced in a consistent format from region to region, and are not available for a common time period. Most of the historic information is not available in the computerized format required to efficiently analyze land use changes over time.

A statewide study prepared in the 1970s, commonly referred to as the Coppleman report, included an analysis of statewide land use trends. It compared aerial photography from the 1950s and the 1970s to determine changes at the municipal level for various land use categories (e.g. developed, agricultural, forested, etc.).¹⁰ The report was updated in the 1980s for Rockingham and Strafford counties. This study provided some useful gross indicators of total land use change across the state, but did not produce any published mapping, nor did it attempt to identify land use patterns that would signify sprawl-related development.

The New Hampshire Office of Employment Security annually records statistics for total employment, unemployment, and the total number of businesses located in each municipality. These statistics were examined for changes in total employment and business growth in the state between 1970 and 1997. This information is useful since business growth can directly affect land development patterns, as well as inducing housing demand which translates into additional residential developments. This data set provides a useful indicator of statewide business development, but is not geographically referenced and cannot be mapped to show actual changes in development patterns. However, the data did document the notably increased density of business development in southern tier towns located between the urban areas of Manchester, Nashua, Salem, and Portsmouth. This is significant because business development in smaller communities can alter commuting patterns, and further influence land development within these communities.

Historic changes in acreage of land enrolled in the current use taxation program were also examined. This program administered by the New Hampshire Department of Revenue Administration (DRA) allows tracts of undeveloped land, including agricultural and forested land, to be taxed at significantly lower rates as long as the property remains undeveloped. Significant acreage converted from current

10 G.G. Coppleman, S.A.L. Pilgrim and D.M. Peschel, *Agricultural, Forest and Related Land Use in New Hampshire, 1952 to 1975*, University of New Hampshire, 1978.

use was assumed to indicate development trends that might include sprawl-related development patterns. Changes in current use acreage statewide between 1980 and 1998 were examined. Although the data highlighted some interesting regional trends in real estate development and perceived upward pressure on land values, the data (some of which was available only as hand-written ledger sheets) was insufficient in detail to suggest a specific correlation with sprawl-related types of development.

In summary, land use data for communities across the state were inadequate to identify indicators of sprawl-related development patterns. However, general demographic information is available and illustrates overall growth trends in New Hampshire, which are discussed in the following section. The patterns of growth highlighted by these types of data could identify regions within the state that may be experiencing some form of sprawl.

Population and Housing

Some researchers use population and housing data to identify sprawl, usually expressed as trends over time in average population density or housing units per acre in a municipality. This type of data was examined as part of this study, but it was determined that this analysis did not provide a meaningful measure of the occurrence of sprawl. Density measures are affected by the geographic size of the municipality, and do not describe the distribution of development within that municipality.

Table 1: Population Change in New Hampshire Counties 1970 - 1998*						
	Change			% Change		
	1970-1980	1980-1990	1990-1998	1970-1980	1980-1990	1990-1998
Belknap	10,517	6,332	3,053	32.5%	14.8%	6.2%
Carroll	9,383	7,479	2,088	50.6%	26.8%	5.9%
Cheshire	9,752	8,005	2,941	18.6%	12.9%	4.2%
Coos	958	-(319)	630	2.8%	-0.9%	1.8%
Grafton	10,892	9,123	4,153	19.8%	13.9%	5.5%
Hillsborough	52,667	59,465	27,844	23.5%	21.5%	8.3%
Merrimack	17,377	21,703	8,218	21.5%	22.1%	6.8%
Rockingham	51,394	55,500	19,026	37.0%	29.2%	7.7%
Strafford	14,977	18,825	6,439	21.3%	22.0%	6.2%
Sullivan	5,114	2,529	1,356	16.5%	7.0%	3.5%
New Hampshire	183,031	188,642	75,748	24.8%	20.5%	6.8%
Source: U.S. Census and NHOSP *1998 data is estimated						

Similarly, changes in total population and housing development do not provide a direct correlation between growth and the existence of sprawl. However, these trends clearly demonstrate the regional variations in the way New Hampshire has grown over the last 30 years. According to Office of State Planning (OSP) estimates, New Hampshire's population increased from approximately 738,000 in 1970 to 1.1 million in 1998. This additional 447,000 people represent an increase of approximately 60 per-cent.

This growth was not evenly distributed through the state. Table 1 illustrates the regional variations in population growth within the state, as well as the cyclical nature of change from one region to another. Hillsborough and Rockingham counties consistently stand out as centers of growth. These two southern tier counties, combined with adjoining Merrimack and Strafford counties, have absorbed the largest amount of total population growth over the last 30 years, marking the southeastern corner of the state as a growth center.

Table 2 shows the largest gains in total housing units also occurred in Hillsborough and Rockingham Counties, following the population trends experienced over the last 30 years. However, during the 1970s and 1980s a significant number of units were added in other regions. For example, the middle tier counties of Belknap, Carroll, and Grafton experienced some of the highest percentage of housing gains in the state. This development activity, centered in the Lakes and White Mountain Regions, is likely influenced by growth in seasonal housing.

Table 2: Change in Total Housing Units by County 1970 - 1998*						
	Change			% Change		
	1970-1980	1980-1990	1990-19-98	1970-1980	1980-1990	1990-1998
Belknap	7,774	6,302	2,351	47.9%	26.3%	7.8%
Carroll	8,016	9,290	3,026	54.0%	40.6%	9.4%
Cheshire	5,166	4,982	1,960	25.6%	19.6%	6.5%
Coos	2,791	2,348	786	21.1%	14.7%	4.3%
Grafton	9,309	9,959	2,918	40.6%	30.9%	6.9%
Hillsborough	26,542	34,414	12,323	35.5%	34.0%	9.1%
Merrimack	10,386	11,234	4,337	35.5%	28.3%	8.5%
Rockingham	22,983	24,364	12,150	43.3%	32.0%	12.1%
Strafford	8,586	9,927	3,484	36.0%	30.6%	8.2%
Sullivan	3,866	3,046	1,160	30.6%	18.5%	5.9%
New Hampshire	105,419	115,866	44,495	37.5%	30.0%	8.9%
Source: U.S. Census and NHOSP *1998 data is estimated						

This overview of recent trends in population and housing growth provides a useful perspective on current residential growth in the state, and on the cumulative impacts of growth in New Hampshire. Al-

though it may seem as though the state is growing faster than ever, this is not the case. This data shows that within the last 30 years, the 1970s were the decade of highest percentage growth rate, and the 1980s saw the largest actual increase in population.

Fiscal Indicators

Evaluating increased public expenditures, another factor often associated with sprawl, requires detailed analysis of municipal budget data. It is commonly assumed that communities spend more money per residence to provide municipal services for low-density development. What seems like a simple cause and effect relationship is more complex. Determining this relationship depends on tracking not only total dollars spent on municipal services and infrastructure, but also more detailed financial information about how and where the funds were spent. This level of financial detail is not compiled by the state.

Assessed property values and municipal tax rates are the primary fiscal data on municipal expenditures collected and summarized annually for the state. This study examined this data, compiled by the Department of Revenue Administration (DRA), for the time period between 1980 and 1998. Analysis of changes in net municipal tax commitment—the amount raised by local property taxes—pointed to some apparent correlation between increases in population and increases in local expenditures. Because data were not available to evaluate changes relating to land development patterns as part of this analysis, increased expenditures could not be linked specifically to sprawl-related development.

Transportation Indicators

Increased dependency on the automobile, and the related increases in traffic congestion and expenditures for upgrading roadways, are other consequences commonly associated with sprawl. The reasoning behind this assumption is that sprawling development patterns result in dispersed land use that requires more driving, and limits pedestrian options. However, traffic congestion may simply result from overall population growth, not necessarily from a particular land use pattern.

This study examined statewide data on roadways in relation to land development, including mileage of new local road construction, traffic counts, levels of service, and highway-related expenditures. Total mileage of local roads constructed could be a good indicator of residential development, with the implication that new residential subdivisions developed on the outskirts of municipalities resulted in increased auto use.

Local communities provide data on new roadway construction to the New Hampshire Department of Transportation (DOT) only on a voluntary basis. The information provided gives no indication as to the location of new road construction, and is often not reported in a timely manner. A number of inaccuracies were found in the data, where known high-growth towns showed no increase in total road mileage, or even a decrease, over a two year period. Therefore, this data was considered too unreliable to draw any meaningful conclusions for this analysis.

DOT also compiles statewide statistics on traffic counts, level of service, and highway expenditures. This information as currently collected supports state transportation management activities, but was found lacking in consistent geographic locations and time intervals needed for this study.

Sprawl and Community Design

Sprawl is commonly identified with certain development design and appearance characteristics. Sprawl-related commercial and residential development is often criticized as unattractive, repetitious, and unimaginative in design, lacking in aesthetics, and inconsistent with local architecture. Numerous studies of actual development practices cite commercial strip development as typical of the unattractive and repetitive design features associated with sprawl. The negative characteristics cited include the big, boxy buildings, large parking lots, endless signage, poor pedestrian access, and the lack of a sense of place created along highway corridors. Residential sprawl development is often represented as large-lot subdivisions, with houses set well back from overly wide roadways. This type of development reduces the sense of neighborhood that might be created with more compact development.

Design judgements are subjective decisions that can vary greatly among individuals. To place the design aspect of sprawl into context for this study, Growth Management Committee members were asked to take pictures of developments they felt represented sprawl, and of developments they liked and thought represented appropriate design features for the community location. Committee members submitted approximately 100 photos, with one-third in the inappropriate design category and two-thirds in the appropriate design category. The entire committee reviewed and discussed all the photographs.

The first group of photos (page 21) exhibits development design features committee members submitted as inappropriate to the local communities. These photos depict commercial strip developments, large parking lots, wide intersections, large-lot housing subdivisions, and buildings constructed with little regard for the streetscape or human scale. Photos were also submitted that depicted buildings in various states of disrepair that were seen as eyesores within the community. This highlights the importance many people place on the aesthetic design of development, as opposed to its functionality.

The second group of images (page 22) shows design features committee members selected as appropriate—such as residential developments of smaller and more compact design. Some photos depict older, established neighborhoods with narrower streets and mature landscaping. Several photos depict more urban scenes, again suggesting desire for more compact, high-density development in close proximity to services and employment, and pedestrian-accessible, thus reducing dependency on the automobile.

These photos also illustrate design features that many committee members consider representative of New Hampshire's character—the character which some people feel is threatened by current development trends. These typical New Hampshire scenes include village areas and town commons, narrow tree-lined country roads, and historic buildings.

Types of Development Lacking Community Design Features

Types of Development Exhibiting Appropriate Community Design Features

Summary

Finding statewide data that could be used to depict growth trends that would indicate the occurrence of sprawl was a primary objective of this study. This research revealed that while a substantial amount of demographic and social data is collected concerning municipalities across the state, none of the data evaluated provided the degree of detail needed to indicate the existence of sprawl. The lack of land use data showing changes in development patterns over time is a major stumbling block to evaluating the spatial nature of sprawl within a community's overall growth patterns.

After analysis of statewide data proved insufficient, it became obvious to the Committee members that detailed case studies were needed to document changes in land development patterns over time. Municipal land use regulations and planning documents used to guide communities development would be examined as part of this approach. The case studies were also expected to provide information about some of the potential causes and impacts of different growth and development patterns in New Hampshire.

Case Studies

Local municipal level case studies were analyzed to gain a better understanding of land development patterns in New Hampshire. After available statewide data proved insufficient to indicate how land use patterns changed over time, the Growth Management Committee chose a case studies approach for a more practical perspective to examine growth and development. Data was available at the local municipal level to compare and analyze the effects of various types of growth over time.

Understanding the regional impacts of growth and development was a key objective of this research. Case studies offered an opportunity to identify the impacts of growth that cross municipal borders and affect neighboring communities. Commercial strip development stretching along highways between adjoining towns is a highly visible example.

Local policies and regulations were reviewed to learn what steps municipalities have taken to identify and address growth and development issues. This analysis provided a basis for broader recommendations on managing growth and development.

Selection of Case Studies and Methodology of Analysis

❖ *Case Study Selection*

Members of the Growth Management Committee and Regional Planning Agencies staff suggested communities for the case study analysis, along with a review and consideration of statewide growth indicators. Case study communities were also selected for opportunities to investigate regional impacts associated with development. As often noted in the research literature, growth in one community—especially strip commercial development—often spills over into a neighboring municipality. Another commonly held belief is that urban areas or central cities have declining growth rates partly because new developments are being located in suburban and rural areas. For these reasons, each case study was comprised of two to three neighboring municipalities and included both more urban and non-urban communities.

Eight potential case study locations were selected on the above criteria.

- Exeter-Stratham-Greenland
- Rindge-Jaffrey-Peterborough
- Keene-Swansey
- Lebanon-Plainfield-Cornish
- Littleton-Bethlehem-Whitefield
- Meredith-Moultonborough-New Hampton
- Concord-Chichester-Epsom
- Merrimack-Litchfield

The initial case study selections were well distributed geographically, representing the state's major regions. Budget and time constraints limited the project to four of these locations. The four areas selected include communities associated with Exeter, Keene, Meredith, and Merrimack.

❖ *Methodology*

Two key aspects of identifying sprawl relate are 1) the spatial pattern of development, and 2) changes in these development patterns over time. Although most communities in New Hampshire prepare land use plans as part of periodic master plan updates, they seldom prepare spatial comparisons of changes in land use patterns from one time period to the next. Significant effort was made in the case studies to identify the spatial and temporal nature of development within the case study communities.

The case studies aimed for a level of analysis beyond reviewing statistical data. While statistics are useful in measuring the impacts of development, this type of information does not provide insight about other factors influencing development decisions. To better understand these factors, this study needed to review community planning and policy documents and actions taken to address growth and development problems.

Changes in developed land areas over a 20-year time period were examined for the spatial analysis of growth in the case study communities. Mapping capabilities of a geographic information system (GIS) were integrated into aerial photography from 1974 and 1992, obtained from county offices of the U. S. Department of Agriculture (USDA) Farm Service Agency. The USDA conducts overflights of the state about every five years, but 1992 was the most recent year for which photos were readily available within the cost constraints of this study. For the case studies, photographs from 1974 and 1992 were scanned and converted to digital images, then imported into the GIS. Between 200 and 300 images, depending on the scale of the photos, were typically scanned for each case study. The photos were then registered to the State Plane Coordinate System so they could be used in conjunction with various data layers from GRANIT, the statewide geographic information system.

Using the aerial photos as a backdrop, new data layers were created for each time period by digitizing polygons (outlines) around the developed land areas within each case study municipality. Developed areas were defined as the location of all structures (e.g. houses, stores, industrial buildings, schools, etc.) and their adjoining associated land area. No attempt was made to differentiate between types of structures, or to identify the location of property boundaries. The goal was to compare the location and amount of development that existed at the beginning and end of the 18-year time period to show patterns of development and changes over time.

The planning and policy analysis segment of the case studies included a review of current and historical (where available) master plans, zoning ordinances, capital improvement programs, development regulations, and special studies such as corridor plans or growth management studies. Efforts to determine if local planning recommendations were actually being translated into zoning and land use regulations that resulted in implementation of desired community objectives were particularly interesting.

Data was collected for a 10 to 20-year time period wherever possible, to get a historical perspective on rates of growth. The case studies examined changes in population and housing, school enrollment, municipal revenues and expenditures, tax rates and assessed property value, and demand for municipal services. The purpose was to see if statistical growth rates correlated with development patterns. Local officials, regional planning agency staff, and members of the Growth Management Committee were interviewed to obtain anecdotal information regarding issues, trends, and initiatives that might not appear in municipal reports.

❖ **Case Study #1 - Exeter-Stratham-Greenland**

The Case Study #1 communities of Exeter, Stratham, and Greenland are located in one of the state's fastest growing regions, the Seacoast area of Rockingham County. Map 1 shows the comparative land use development patterns from 1974 to 1992 within these three municipalities. Case Study 1 appears to illustrate many of the characteristics associated with sprawl-related development. The town of Exeter has a densely developed downtown which is a typical example of the New England village settlement pattern. Stratham and Greenland were settled as agricultural communities. Stratham lacks a readily definable center or village area, while Greenland has a small village around a town green.

From this scenario, development has been highly dispersed across the entire land area, particularly in Stratham, and to a lesser degree in Exeter and Greenland. Stratham experienced an increase in total developed area of 220% (approximately 1,600 acres) during the 18-year period, while Exeter's and Greenland's increased 42% and 65%, respectively (see Table 3). Exeter's development has been limited somewhat by the existence of tracts of conservation land and natural constraints. In Greenland development has reportedly been slowed because large tracts of land are still held by a limited number of families.

Development that existed in 1974 occurred mostly on parcels with frontage along roadways. The development patterns of all three communities—for both commercial and residential development—were established and readily evident over 20 years ago. Frontage development was still occurring in 1992, but to a lesser degree. New residential development during the 1980s began to involve much larger subdivisions extending away from existing roadways and into back lands.

Less evident from the map are commercial development trends. Commercial strip development can be seen in aerial photographs from 1974, and based on discussions with local officials, probably began still earlier. Commercial development at that time was extending outward from Exeter's downtown along several state highways, including parts of Routes 108 and 33, which runs from Stratham to Greenland and Portsmouth. This development pattern had intensified by 1992, particularly in Stratham, as a result of proximity to the expanding Route 101, and its Route 108 interchange. Development of larger commercial facilities to serve the growing regional market was another emerging trend, both in new construction with larger square footage, and the expansion of existing commercial properties.

❖ **Case Study #2 - Keene-Swanzey**

The Keene-Swanzey Case Study #2, depicted on Map 2, has both similarities and differences with Case Study #1. Keene is the hub city of southwestern New Hampshire, with a densely developed urban core considerably larger than Exeter's. Map 2 shows that most of the development that existed in 1974 was focused in a concentrated area largely influenced by the natural constraints of topography, surface waters, and wetlands. Some road frontage development was also evident in outlying areas at that time. Note the development that existed in 1974 at the Swansey town line along Route 12, which marked the beginnings of an expanding highway-related development pattern between the two municipalities.

Swanzey's 1974 land use pattern exemplifies the typical mosaic of a New Hampshire town that evolved from the settlement of multiple villages, five in the case of Swansey. Except for a few large, scattered residential subdivisions, all development in 1974 was in or around those villages, or on existing road frontage between the villages. Commercial development was also evident along Route 12, adjacent to the Keene town line.

The change in total developed acreage highlights a significant contrast between the two municipalities. Keene's developed acreage increased by 574 acres, or 16%, from 1974 to 1992. In comparison, Swanzey added 1,787 acres of new development during the same period, for an increase of 133%. Through 1992 Swanzey's development continued to be largely dispersed along existing road frontage and within the villages, while Keene's more recent development occurred mostly on the fringes of its core area.

Similar to the Exeter case study, commercial *redevelopment and infill* was noted on the aerial photos in Keene's downtown and along the Route 12 corridor in both communities. Keene has established a policy limiting commercial expansion out beyond the highway bypass that rings the downtown area. While this has helped to control development activities within Keene, the demand for highway frontage close to Keene may have shifted some of the regional demand for commercial property to Swanzey and other adjoining municipalities which have not adopted similar methods of growth management.

❖ **Case Study #3 - New Hampton-Meredith-Moultonborough**

The Case Study #3 communities are located in the Lakes Region, part of New Hampshire's tourism and second home market. The towns of New Hampton, Meredith, and Moultonborough have frontage on, or are in close proximity to Lake Winnepesaukee, the largest lake in the state. The location of these communities draws a substantial influx of seasonal residents and visitors. Land development patterns in these communities are also greatly influenced by the area's natural resource features.

Map 3 shows how the development patterns of all three communities in 1974 were widely dispersed along the frontage of existing roads, in a manner similar to other case study areas discussed above. The concentration of commercial and residential development in Meredith Center, at the intersections of Routes 3 and 25, was a notable exception, and to a lesser extent, New Hampton's village area on Route 104.

Growth in developed land area between 1974 and 1992 was significant, from a percentage perspective, for all three communities. However, Moultonborough's developed acreage increased at an exceptional rate of over 350%, from 536 to 2,445 acres. This was the greatest percentage increase of all case study towns. Changes in Moultonborough's development patterns were very much focused on waterfront areas, and also included a number of large-lot subdivisions. While Meredith experienced a small increase in the number of large-lot subdivisions, the 1992 development pattern for both Meredith and New Hampton continued to be mostly along existing road frontage. All three communities have exhibited a dispersed growth pattern throughout the time periods examined, except for Moultonborough's large scale expansion along Lake Winnepesaukee.

Meredith is proactively managing the extent of commercial strip development outside of its downtown area, as well as the appearance of new commercial establishments within the town center. New Hampton and Moultonborough, however, have rezoned the entire length of Route 104 in their respective communities for commercial development. From a land development perspective, this could have particularly negative consequences in New Hampton where Route 104 has an interchange to Interstate 93, creating a very desirable location for future commercial development.

❖ **Case Study #4 - Merrimack-Litchfield**

The communities of the fourth and final case study are located between Manchester and Nashua, the state's two largest cities, in south-central New Hampshire. The towns of Merrimack and Litchfield are part of Hillsborough County, the fastest-growing county in New Hampshire over the last 30 years. A recent growth study completed by the Nashua Regional Planning Commission identified Merrimack and Litchfield as two of the region's fastest growing communities in population since 1950.

These two communities have developed somewhat differently over the 18-year time period examined. As illustrated on Map 4, Litchfield's 1974 land use pattern was characterized predominantly by road frontage development along with a few larger subdivisions. Overall development in 1974 was limited to only 454 acres, about five percent of the town's total land area, as shown in Table 3. In contrast, Merrimack's land area was more than 12% developed, with a total of 2,556 acres of developed land in 1974. Merrimack had numerous large subdivisions and commercially developed areas.

Differences in highway access account for much of this disparity of development patterns between the two communities. The Everett Turnpike and Route 3 corridors traverse the eastern edge of Merrimack, parallel to the Merrimack River, which has always afforded excellent highway access to this portion of the town. As residential and commercial development began to extend outward from the cities of Manchester and Nashua during the 70s and 80s, Merrimack was one of the adjoining municipalities that absorbed that growth. Although Litchfield is situated just across the river, it does not have direct highway access, which has significantly slowed the timing of development in the community. Litchfield also has a considerable amount of prime agricultural land along the river corridor which has been actively farmed, insulating the community somewhat from development for a longer period than some other New Hampshire southern tier communities.

By 1992 Litchfield's development pattern had changed significantly, with new residential growth almost entirely composed of large-lot subdivisions, and very little frontage development along existing roadways. Total developed acreage had increased by almost 280% to 1,712 acres. This growth may be attributed to increases in employment opportunities within the state, as well as the increase in the number of people commuting to employment in Massachusetts.

Merrimack's 1992 land use development patterns continue to follow those exhibited during the earlier time period. Large-lot subdivisions and commercial infill was observed along the Turnpike corridor, along with expanded residential development in the northwest and southwest corners of the town. This clearly indicates that Merrimack is still a very desirable location, despite the diminishing supply of developable land in close proximity to the highway corridor. A recent build-out analysis completed by the Nashua Regional Planning Commission indicates that as of 1998, 31% of Merrimack's total land area—approximately 6,600 acres—was still developable.

Planning and Policy Issues in Case Study Towns

The case study investigations highlighted a variety of local planning and policy issues. The studies evaluated changes in municipal and school budgets; changes in demand for services; expansion of infrastructure such as roads and utilities; and changes in zoning and land use regulations, master plans, and other planning policy documents. More detailed conclusions related to these issues are discussed in Chapter 4.

❖ *Land Use and Planning*

- Most commercially zoned districts in the case study communities are configured as long strips, typically along state highways. Exceptions were found in several municipalities with densely developed urban cores—Exeter, Keene, and Meredith—all of which have both downtown and highway commercial districts.
- Many of these commercial districts have been in place more than 30 years, although some have been established more recently. The scale of new development in these commercially zoned districts has increased over time, especially in the southern tier communities.
- Some communities have identified sprawl as an issue in master plans or other planning documents, and have taken some action or are considering options for addressing the issue. Examples include Keene's urban growth boundary, various highway access management plans, and a sprawl committee formed in New Hampton.
- Evidence suggests that efforts to manage growth in one community can push increased development activity into an adjacent community. This demonstrates the regional nature of development activity in general.
- Very often a disconnect occurs between master plan recommendations and the zoning ordinance that is adopted by a community. More follow through is needed to review zoning and development regulations to reflect master plan recommendations. Unintended consequences of zoning and other regulations can produce results opposite to master plan recommendations. More outreach may be needed to educate residents about recommendations developed as part of the planning process, and to foster understanding of causes and effects of planning and regulatory decisions. The planning process also may not receive sufficient input from a broad enough section of the public.
- Development in the case study communities was found to be incremental in nature. With some exceptions, historic development patterns were mostly of scattered, small-scale developments located along existing highway frontage. But as available road frontage has been used up, residential development patterns are turning to larger subdivisions in back lands.
- Residential development accounts for the conversion of the largest amount of undeveloped land in study area communities during the 18-year study period. The increasing scale of subdivisions over time has increased the fragmentation of large blocks of forest land, a trend well documented in a recent report of the Society for the Protection of New Hampshire Forests.
- Despite concerns about the design of new development cited in some of the case study communities, few had taken any initiatives to establish design standards.

❖ ***Municipal Services and Infrastructure***

- Case study review of municipal budgets revealed annual increases ranging from three to ten percent, which are not generally considered excessive. Budget categories showing the largest increases were education, solid waste disposal, public safety, parks and recreation, and roads. However, the procedures used by most communities to track expenditures made it difficult to link spending increases to specific development patterns.
- New residential land subdivisions have significantly increased local road construction in several case study communities. These increases are relatively recent, since past development was mostly along existing road frontage.
- Highway budgets have been increasing incrementally to maintain recently built roadways. Some communities have deferred capital investments required to upgrade roads.
- Traffic congestion was cited as a common problem in most case study communities, particularly those with concentrations of commercial development along major highways.
- About half of the case study communities operate municipal water and/or sewer systems. None had plans to extend these systems significantly beyond the current service areas.
- Few of the case study communities have developed build-out analyses based on their current zoning ordinances in order to understand the potential fiscal and land use impacts that might result from their current development policies.

❖ ***Natural Resources***

- Although the case study communities have significant amounts of protected lands, large areas of open space land remain that could be developed.
- Environmental zoning has not been effective in preserving large blocks of open space from the incremental effects of development. Neither have cluster residential subdivision regulations preserved significant undeveloped land areas.
- Most case study communities' master plans express strong concern for protecting environmentally sensitive areas. While some towns have been able to preserve some of these resources, many lack the financial, regulatory, or political support to act on these recommendations.
- Most case study towns have chosen not to install or expand municipal water and sewer systems. This often results from large-lot zoning requiring one acre or more, but this reliance upon on-site septic and wells guarantees scattered, low-density new development.

Review of Other Relevant Studies

A number of other studies of development issues in the state were reviewed for insight into the impacts of growth and development on New Hampshire communities. Prepared by diverse public and private organizations, these reports approached the subject of growth management in New Hampshire from slightly different perspectives. This section provides a summary of conclusions from the various reports related to this study.

Society for the Protection of New Hampshire Forests (SPNHF) and the Nature Conservancy

SPNHF and the Nature Conservancy released an excellent review of growth in the state, *New Hampshire's Changing Landscape - Population Growth, Land Use Conversion, and Resource Fragmentation in the Granite State*, in November 1999. This report addressed a wide range of environmental issues historically affected by development trends in the state, and estimated possible future impacts based on projected growth rates.

The report included a wide range of demographic, social, and economic indicators for all municipalities within the state. Statistical analysis of these indicators was combined with Geographical Information Systems (GIS) mapping, to illustrate the status of New Hampshire's natural resources, and changes in development patterns over time. The SPNHF/Nature Conservancy report provides a very useful analytical backdrop to support the analysis conducted for this report. Some of the report's interesting conclusions and recommendations are summarized here.

- Measures of growth, development, land use changes, natural land loss and fragmentation, and land protection efforts should be tracked regularly—ideally, every one to five years.
- Half of New Hampshire's 259 municipalities and unincorporated places have less than 10 percent of their lands protected from development.
- Forest cover in New Hampshire has declined for the first time in decades, falling from a high this century of 87 percent in 1983, to 83 percent in 1993.
- Fragmentation of large forest habitat blocks is a growing concern, with the greatest potential for negative impacts in Hillsborough, Rockingham, and Strafford counties.

Comparative Risk Project/Minimum Impact Development Partnership

The New Hampshire Comparative Risk Project (NHCR) began in 1993 as a science-based, non-advocacy, voluntary public/private partnership working to better understand and reduce environmental risks. Between 1995 and 1997, a diverse group of stakeholders identified, studied, and ranked 55 environmental risks to New Hampshire's quality of life, defined as "healthy people, healthy ecology, healthy economy." The process and findings were presented in the 1997 *Report of Ranked Environmental Risks in New Hampshire* (available at www.thejordaninstitute.org) and the 1998 handbook, *For Our Future: A Guide to Caring for New Hampshire's Environment*.

The Minimum Impact Development Partnership (MIDP) is a major NHCR initiative to reduce environmental hazard by changing land use and energy use. Begun with a US EPA Sustainable Development Challenge Grant, MID is a collaboration of members of the development industry—developers, engineers, architects, bankers, insurers, builders—and natural and public health scientists. The MID vision is to maintain New Hampshire's diverse landscape of thriving urban centers, country towns, villages, rural and working landscapes of agriculture and forestry, and wild lands. The goal is to identify sound

development practices that maintain a diversity of density and choices in community character across the state. Such practices minimize 1) air, land, and water pollution; 2) energy use; and 3) habitat loss from development. Design experts and scientists are describing specific voluntary practices, with performance standards, at the building, site, neighborhood, and municipal levels. The MIDP will identify measures of progress toward minimum impact development and diversity of density, and highlight successful examples. A draft practices manual will be completed by the end of 2000.

Report to Governor Shaheen on Sprawl

In 1999 Governor Shaheen directed the Council on Resources and Development (CORD) to evaluate how state agencies' administration of programs affects development patterns in New Hampshire communities. The impetus for this analysis was the recognition that New Hampshire's unique natural and cultural landscape, including small towns and historic architecture, is threatened by the projected growth facing the state. Preservation of these resources was noted as essential to maintaining a strong economic future.

Based on those directives and in conjunction with the New Hampshire Office of State Planning, CORD assessed how state agency programs are affecting sprawl-related development. The report found that programs and procedures currently administered by state agencies have many positive effects on reducing the impacts associated with sprawl. However, the report also identified six key areas of impact in which state agencies should focus future efforts: planned investment in urban or village infrastructure; land use planning and preservation of downtown and village centers; rehabilitation of urban properties; location of state offices and other facilities; preservation of open space; and transportation planning.

Other Reports

Two reports from the early 1980s are helpful in placing current trends and initiatives in perspective: *Options for an Urban Development Policy: An Action Agenda for New Hampshire (1980)*, and *Final Report to the Governor's Advisory Council on Growth (1981)*.

Both studies illustrate the cyclical nature of development trends, and provide a glimpse of how perspectives on how much growth the state can accommodate is strongly influenced by perceptions of recent trends versus the capacity of man-made and natural systems. The authors of the 1980 study of urban areas made the following observations about the state at that time.

New Hampshire is a state in transition. It has undergone extensive change in the last thirty years, mostly as a result of rapid population and economic growth. The very qualities that attracted some of the 200,000 people in the last decade alone, are in danger of being lost because of rapid growth. [This rapid growth has]. . . spurred demand for increased services which in turn has raised property taxes, generated land use regulations that are more strict and sophisticated in an attempt to slow growth, stimulated land and building prices dramatically, consumed open land that is considered a prized asset of the state and, diminished the available labor supply.

With regard to the state's urban areas the report noted the following.

"... many of the state's older urban centers have not, in general, benefitted significantly from the growth activity. Many of the urban communities have experienced continued decline ... as population shifted to newer communities and shopping centers developed, retail sales declined and stores closed. Building stock in downtowns was underutilized – upper floors of commercial space lay vacant as did vast square footage of obsolete manufacturing facilities."

Clearly, the conclusions reached of that study completed 20 years ago show that the growth-related issues now confronting the state are not new. These issues have been building in magnitude over at least 30 to 40 years. The effects of sprawl-related development have probably been present longer than generally recognized.

Housing growth can have both positive and negative impacts. This conundrum was articulated in the 1981 report of the New Hampshire Governor's Advisory Growth Council, which warned, *"the failure to recognize housing as an integral component of balanced economic growth will have counter-productive impacts on some municipalities within a growing region."*

The report also noted that *"The impact of one municipality obtaining new non-residential economic expansion may be that adjacent towns will experience a strong demand for housing...Among the negative long term effects of such policies are: lack of interest by potential industry, expensive public services due to inappropriate land use controls, and a lower overall tax base per capita."*

The conclusions of this report clearly speak to the impacts of unplanned growth within the state 20 years ago, as well as today. These conclusions also highlight the regional nature of development activities—where land use decisions in one community have unintended consequences in other nearby communities.

CHAPTER 4

Conclusions and Recommendations - Challenges for the Future

This study examined the nature of sprawl in New Hampshire, and looked for ways in which public policies and programs may be contributing to the growth of sprawl. Some general conclusions about impacts associated with existing land use development patterns in New Hampshire can be drawn from the research conducted during this study. Some conclusions relate to the process used by communities to manage development.

This report offers a series of recommendations to strengthen the ability of state and local governments and regional organizations to cope with the challenges of future growth. Detailed analysis of statewide growth indicators, municipal case studies, and a review of how other states are addressing similar concerns support the recommendations. Some recommendations suggest options for improving the ability of both state government agencies and local governments to manage and guide growth in the future. One of New Hampshire's more interesting features is the diversity of land uses among its cities and towns. If preservation of this diversity is important, then local governments require a wide range of options for managing growth and development.

Conclusions

Growth and development are not new issues in New Hampshire. The data presented in this report indicate the population of the state increased by an estimated 60% from 1970 to 1998. The number of dwelling units in New Hampshire is estimated to have increased in the same period by almost 95 percent. While the majority of this growth occurred in southern New Hampshire, increased tourism and construction of vacation homes and other factors contributed to significant development activity in other regions of the state.

The amount of growth is certainly of concern. But increasingly, people are more concerned about the nature of the growth and the physical pattern into which our communities are evolving. Each of the 10 study communities increased in population between 1974 and 1992, based on OSP estimates. While Keene only grew by 9.7%, the population in Litchfield increased by 189.7 %. The 10 communities increased their populations on average by 70.9%.

In every instance, the increase in developed land in these communities exceeded the population increases. In comparison to the 70.9% population increase, developed land in these communities increased by 137.2%. Some of this is readily explainable for towns like Moultonboro, where second homes are built by owners who do not show up on the town's census rolls. But even in communities like Keene, which grew by only 9.7% in population, developed acreage increased by 15.9%.

In community after community, the story is the same. We are consuming more land per person than we ever have in the past. As business, commercial, and residential activity spreads out from established community centers, the evolving pattern is one of decreasing densities and segregation by types of activities. Where downtowns once contained a multi-story mix of retail establishments, residences, institutional activities, offices, and other sites, we now have separate clusters of single story, low density malls, commercial strips, office parks, and residential subdivisions. And we use our automobiles to travel from one to the other.

Concerns about the impacts of growth have broadened and deepened. Previous public discussions about development more often focused on impacts associated with residential development. The current public discourse is much broader, involving a wide range of issues and problems associated with rapid growth and development. These impacts are often lumped together, and referred to as sprawl.

Earlier in this report, it was suggested that sprawl is an imprecise term signifying various negative impacts associated with development. The concept of sprawl is often used as a pejorative term to describe “bad” development. It may be reassuring that a community wants to take steps to avoid “sprawl development,” but adopting plans and regulations to prevent sprawl can be difficult if residents have differing opinions of what constitutes sprawl. “Perhaps the concept of sprawl, because of its complexity, does not offer the best framework to deal with the problems people are concerned about,”¹¹ as author Miriam Wasserman has noted.

Although the concept of sprawl may not be the most illuminating term for describing growth patterns identified as objectionable in many communities, the case studies do indicate several development trends in New Hampshire that foster certain undesirable impacts. Current land use planning methods used by local governments may be inadequate for the growth and development challenges now confronting cities and towns in New Hampshire. The most significant conclusions of this study are outlined briefly below.

- **Development has become a regional as well as local issue in New Hampshire, especially commercial and industrial development.** Currently one community may be primarily responsible for approving a development proposal, while many other communities may also feel the impacts. “When making local planning decisions, a municipality must consider the impact of its initiatives on the entire region,”¹² argue Duany, et al, advocates for changing traditional land use planning practices.
- **An effective growth management program in one community can result in increased growth in an adjacent community.** Whether the adjacent community desires the additional growth or not, it may lack the resources or the inclination to manage development in the same manner. The result is often disjointed development and conflicting land use patterns within a region. One group of planning critics suggests that communities should, “Think globally, act locally, but plan regionally.”¹³

11 Miriam Wasserman, “Urban Sprawl” *Federal Reserve Bank New England Regional Review*, January - March 2000, page 12.

12 Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*, 2000, page 225.

13 Ibid

- **The impacts associated with growth and development are cumulative over decades.** Although a large development project may have a significant impact on a community, it is much more difficult for a community to manage growth that consists of many incremental development decisions. This is primarily due to the cumulative impacts of multiple development projects. Unfortunately, most communities never evaluate how these incremental land development decisions affect long term community land use patterns.
- **Land development has occurred incrementally in New Hampshire.** In the Sunbelt states of the south and west, development proposals often involve large tracts of land (500 to 2,000 acres) typically at the edge of a city or in an unincorporated area of a county. Local officials have more opportunity to work with developers of large-scale development projects, and have more control over the comprehensive development plan than they do with smaller-scale development. Developers can also be more easily assessed for a proportional share of capital costs for expanded municipal facilities and services required by a new development, such as sewer and water lines, roadway improvements, and recreation areas, during the review of a large land development proposal. Small subdivisions are the prevailing pattern of new housing construction in New Hampshire, and many retail operations, especially adjacent to roadways, are developed as separate entities, and tend to expand over time.
- **These incremental development patterns in cities and towns across New Hampshire have resulted in fragmentation and loss of important forest lands, wildlife habitat, and other sensitive environmental areas.** The Society for the Protection of New Hampshire Forests documented the serious natural resources concerns facing communities in the state in its recent report, *New Hampshire's Changing Landscape* (October 1999). Many New Hampshire communities have found it is difficult to address the problems of land fragmentation through changes in a master plan or land use regulations.
- **Local land use planning in New Hampshire should follow the key principle that land use regulations are based on a master plan.** Too often, land use regulations adopted by a community are inconsistent with the master plan. The planning enabling statute in New Hampshire states that a municipality cannot adopt a zoning ordinance until the planning board has approved a general statement of objectives and the land use section of a master plan (RSA 674:18). The case studies, however, indicate a disconnect between the master plan and land use regulations. For example, a community's master plan might note that due to increasing traffic congestion certain sections of a major roadway should not be used for significant traffic-generating activities such as retail. Nevertheless, the zoning is changed and the entire roadway corridor is eventually designated for retail use. The master plan will note the need to protect key environmental resources, such as an aquifer recharge area, but regulations are never adopted. In some cases planning boards can and do adopt master plans, but may lack the wide base of support needed to implement the master plan's recommendations.
- **Few communities ever examine the possible development impacts of their own zoning ordinance or land use regulations, resulting in failure to anticipate potential problems from cumulative future development.** Some communities require developers to submit studies that estimate possible traffic, environmental, and fiscal impacts associated with a development proposal, but few consider the possible development impacts of their planning activities and regulations. Few communities prepare any type of build-out study of their community under existing local regulations. As a result, communities do not anticipate possible problems from future development—such as the cumulative impacts of septic systems on water sources, how groundwater supplies will be affected by increased water usage, or the impacts of residential growth on traffic and roadways.

- **The intent of a cluster ordinance may be to preserve undeveloped land and alter overall land use development patterns, but too often local cluster development regulations conflict with that intent.** Communities confronting rapid growth are often urged to adopt regulations that permit the clustering of houses on a smaller portion of a site developed for residential usage, in order to preserve other areas of the site as open space. Too often, the protected open space land has no relation to an overall community open space conservation plan, and ends up isolated, unusable, or of little conservation value. For example, local regulations requiring a buffer around a cluster development can cause most of the preserved open space to be devoted to narrow strips unrelated to the town's conservation or recreation goals.
- **Most towns in New Hampshire rely upon on-site septic and wells, guaranteeing scattered, low-density new development.** This often results from large-lot zoning of one or more acres.
- **In other parts of the nation the extension of water and sewer lines and the construction of new roadways in rural areas have fostered the expansion of low-density housing developments.** Governmental expenditures can be argued to be subsidizing sprawl in these situations. Low-density housing development is also often believed to cost communities more to provide municipal services than compact and denser forms of development. In the case study communities, extension of water and sewer service to another community was extremely rare. In some instances water and/or sewer lines were extended across a municipal border to service an adjacent business activity or residential neighborhood. No instance was identified of extending these services to undeveloped land.
However, roadways are improved to provide highway access to new development projects. At the local level these improvements—especially for residential developments—are often paid in-part or in-full by the developer. Similar arrangements are often made concerning development projects adjacent to roads maintained by the state. However, the incremental and cumulative effects of growth and development in New Hampshire frequently lead to increased state and local spending for roadway improvements.
- **Most commercially zoned districts in communities examined for this study are configured as narrow ribbons located along state highways.** This has led to the predominant pattern of strip development of land along major roadways in the state. Strips of land adjacent to major roadway corridors are being developed at an increasing rate, as seen in the land use maps prepared for the case studies. These narrow ribbons of development often include numerous curb cuts to provide access to the many retail establishments. Often, over time these developed roadways are extended from one community to another through a series of zoning changes. These zoning changes are frequently justified by the need to increase local property tax revenues. Eventually, roadway expansion is often required to relieve traffic congestion and improve safety.
- **Attributing municipal costs specifically to low-density development proved extremely difficult.** However, fast-growing communities experienced significant budget increases in education, fire, police, and recreation services. Procedures used by municipalities to account for municipal expenditures make it difficult to isolate costs based on the characteristics of a specific development. A recent study prepared by the Nashua Regional Planning Commission, *Fifty Years of Growth: Analysis of the Impacts on the Nashua Region* (July 2000), determined that municipal budgets in the region for fire, police, and schools had increased at rates that exceeded the rate of housing growth.
- **The case studies found that several communities are taking specific actions to deal with growth and development.** One community has established an urban growth boundary to

clearly demarcate the types and intensity of land uses permitted in different locations. Another community has established a sprawl committee to investigate minimum impact development techniques to guide future development. Other communities have prepared detailed capital improvement plans in an effort to better manage how, where, and when public services are provided. Communities, primarily through regional planning agencies, have begun to work with the New Hampshire Department of Transportation to better coordinate land use planning along highway corridors. Generally it is larger communities that are attempting more innovative and comprehensive approaches to growth management.

- **People in New Hampshire are increasingly concerned about good community design for both commercial and residential development.** They want to live and work in communities that are appealing in appearance and appropriate to the local landscape and character. Public hearings on commercial development proposals, especially retail and strip development along highway corridors, increasingly involve extensive discussions about building design, parking lot location, lighting, and landscaping. Community design has become an integral part of the growth management discussion in New Hampshire.
- **‘Leapfrog development’ is commonly associated with sprawl development patterns.** This type of development is usually defined as rapid growth, usually residential, that occurs in rural areas adjacent to major roadways, especially interstate highways. The case studies indicate that this type of development, especially residential, is occurring in certain rural areas of New Hampshire. This type of development raises concerns about the community’s ability to provide municipal services (e.g., police, fire, roadway maintenance, education), as well as cope with the possible impacts on the environment and the character of the community.

Recommendations

The legislation (House Bill 207, Chapter 19, Laws of 1999) directing the Office of State Planning (OSP) to study the effects of sprawl in New Hampshire specified that “The study shall make recommendations on local, regional and state growth management and associated legislative initiatives.” The Growth Management Committee discussed a variety of policy alternatives and approaches for improving the management of growth and development in New Hampshire. This study looked for ways in which state and local government policies and actions induce sprawl, and for measures the state of New Hampshire and its communities can take to manage growth wisely. Subcommittees examined topic areas in depth, and proposed policy alternatives for improving growth management at the local, regional, and state levels.

Too frequently, state and local governments induce elements of sprawl through policy and actions that are not consistent with the goals of community master plans—including the way capital improvement plans and zoning ordinances are implemented. Based on the study research and the Committee’s deliberations, this series of policy recommendations is offered for consideration by state, regional, and local decision-makers.

1. *Update and Revise New Hampshire Planning Statutes*

Changes in land use and the pace of development across the state require significant reforms in how growth is managed in New Hampshire.

- Local governments need a broader range of alternatives and more flexibility in planning and zoning.
- Local governments need more incentives to work together regionally on planning issues.
- State government needs to expand and better coordinate its role in advising and assisting local governments in implementing planning initiatives.
- The content requirements for a master plan need expanding, adding new approaches for guiding and permitting development to the innovative land use controls statute (RSA 674:21), and establishing standards for examining development issues on a regional basis during master plan preparation.

Like most states, New Hampshire has adopted a number of statutes authorizing local governments to regulate the use and development of land. The planning enabling statutes in New Hampshire and many other states are based primarily on the Standard City Planning and Zoning Enabling Act that was drafted in the 1920s by an advisory committee of the U.S. Department of Commerce. As noted by one attorney with extensive experience in land use law, the statutes enacted in New Hampshire have changed little since adoption.

The Department of Commerce suggested that legislatures should amend the Standard Act as little as possible, avoid the addition of words and phrases, not consolidate sections, and avoid definitions. The 1925 session of the New Hampshire Legislature took the advice of the Department of Commerce and adopted the provisions of the Standard Act with little or no change. The provisions of the Standard Act remained basically unchanged through the time of the 1942 recodification of the revised laws of New Hampshire and the recodification of the New Hampshire Revised Statutes Annotated in 1955. The 1983 recodification changed the format of certain sections; however, the core of New Hampshire zoning law continues to be the document that was originally developed by the Department of Commerce in the 1920s.¹⁴

The Standard Act was originally prepared for the Department of Commerce to provide state governments with a procedure for delegating state authority involving the regulation of land development to local governments. The Standard Act regarded planning and zoning primarily as local matters. The Act was also intended to preserve property rights and protect private investment from nuisances and other incompatibilities associated with neighboring properties. The Standard Act was also designed to establish a uniform national framework of planning and zoning that could survive challenges in state and federal courts.¹⁵

14 Peter J. Loughlin, *Land Use Planning and Zoning: New Hampshire Practice, Volume 15*, Butterworth Legal Publishers, 1993, page 3.

15 Based on material contained in the *Growing Smart Legislative Guidebook: Model Statutes for Planning and the Management of Change*, American Planning Association, September 1998, page xxi.

Developing and adopting revisions to the New Hampshire planning statutes will not be a simple or an easy task. Specific examples of possible changes include the following.

- a. Increase the number of master plan elements that must be completed for adoption of a zoning ordinance.¹⁶ These recommended master plan changes should be phased in over a period of up to 10 years. Only two elements are currently required (RSA 674:18) for community approval of a zoning ordinance: a land use section and a general statement of objectives. The general statement of objectives should be expanded and renamed 'issues and opportunities.' The legislature should consider amending RSA 674:2 to also make mandatory some of the other master plan sections listed in the statute:

- ♦ housing;
- ♦ transportation;
- ♦ utility and public service;
- ♦ community facilities; and
- ♦ recreation.

Additional mandatory master plan requirements should include:

- ♦ areas of regional concern;
- ♦ natural hazards;
- ♦ economic development;
- ♦ cultural and historic resources;
- ♦ natural resources including agriculture, forestry, and water resources; and
- ♦ an implementation strategy.

♦ New optional elements could include sections on:

- ♦ human services;
- ♦ community design;
- ♦ plans for specific neighborhoods or redevelopment areas; and
- ♦ telecommunications.

- b. Provide more descriptive information concerning innovative land use controls (RSA 674:21). Consider adding new approaches for guiding and permitting development activities such as:
 - (1) Unified development ordinance that includes zoning combined with subdivision and site plan review regulations.
 - (2) Incentive zoning that permits increased development density if certain criteria are met, such as preserving additional open space.
 - (3) Density bonuses for infill development projects.

16 Ibid, Chapter 7.

- (4) Inclusionary zoning for low-income housing.
 - (5) Performance-based zoning for specific areas that involve mixed types of land uses, especially in but not limited to downtown centers.
 - (6) Encourage inter-municipal cooperation in tax base arrangements, transfer of development rights between communities and joint master planning efforts.
 - (7) Authorize and establish standards for developing community design guidelines. Require communities to prepare an analysis of existing community design features as an element of the master plan before adopting design guidelines.
- c. Strengthen the connection between master plan approval and implementation activities. Options include changing how the master plan, or portions of the plan, are presented and explained to the community, and developing a process to indicate on zoning ballot issues how proposed changes will assist in implementing master plan recommendations.
 - d. Authorize communities to establish special advisory or long range planning committees to assist in preparing master plans or other special planning activities. These committees should include at least two planning board members or alternates, and the chair of any committee responsible for updating the master plan.
 - e. Evaluate possible revisions to RSA 36:54-58, Review of Developments of Regional Impact, to provide more definitive standards for qualification of developments of regional impact. Consider establishing a threshold above which projects would require regional review. Establish guidelines for review and approval of such regional impact projects.
 - f. Encourage communities to establish a planning process to identify appropriate locations or growth areas for the different types and levels of intensity of land uses, such as commercial, residential and conservation. Communities should prepare a build-out analysis based on existing zoning and land use regulations as part of this process, to help identify needed changes to their regulations. This consensus-building process can help a community evaluate its current regulations, and identify areas to target for development and for conservation.
 - g. Encourage communities to establish benchmarks describing what the community hopes to achieve through implementing the master plan. Benchmarks could include:
 - (1) Ratio of open space land to developed land
 - (2) Density of new development
 - (3) Mix of housing units and changes in the number of units over time
 - (4) Changes in parkland and/or open space.

Efforts to revise New Hampshire planning statutes should involve a review of the American Planning Association's Growing Smart Legislative Guidebook: Model Statutes for the Management of Change (1998). This document represents an update of the Standard City Planning and Zoning Enabling Act (1920) and the American Law Institute's A Model Land Development Code (1976). The Growing Smart Legislative Guidebook contains suggested statutes, based in some instances on updated legislation in other states, and a variety of alternatives and approaches for establishing appropriate growth management techniques. The use of this model statute would complement the Legislature's establishment in

2000 (House Bill 1259, Chapter Law 292) of state policy encouraging state agencies to use smart growth principles.

Innovative approaches to land-use decision-making in New Hampshire should also be considered in the legislative review process. Programs working to help communities improve their planning and zoning include the Minimum Impact Development Partnership, a public/private partnership working on defining and implementing development practices which maintain a diversity of density, and minimize pollution, energy use, and habitat loss. In the Seacoast region, the Natural Resources Outreach Coalition is coordinating natural resources education and technical assistance for local communities. Designed to turn education into action, the program offers presentations tailored to each community, and follow-up technical assistance to help each community achieve its growth management objectives.

2. Establish and Coordinate State Development Goals and Policies

The state Development Plan can become a much stronger vehicle for developing and coordinating state policies related to growth and development. The Development Plan should identify up to 12-15 broad themes, such as air quality, water quality, groundwater protection, agricultural land, open space, wetlands, transportation systems, land use, and downtown revitalization. Broad goals and objectives should be developed and communicated for each of these key areas in a coordinated manner.

The legislative reports on development and smart growth currently required from OSP and the Council on Resources and Development (CORD) can be coordinated and combined to more closely link state policy with state government action, and avoid duplication. Now required every two years, the state Development Plan (RSA 9-A) establishes state policy on development and proposes programs to implement such policies. New amendments have added policies to protect and preserve farmland and open space, and minimize sprawl. The expanded policy role and broadened framework of the state development plan leads to the recommendation to amend the statute to require the state Development Plan every four years, beginning with 2003.

A similar amendment is recommended to change the CORD report on sprawl to every four years, beginning in 2001. House Bill 1259, Chapter 292, Laws of 2000 currently requires CORD to report annually on state agencies' progress in responding to legislative smart growth initiatives. The CORD report makes recommendations concerning conflicts in policies, plans, and programs in relation to encouraging smart growth. This report on sprawl and smart growth initiatives would analyze progress, or serve as a report card on how well the state is meeting the goals and policies of the state Development Plan. It could examine how state agencies are using state and federal funds to achieve smart growth objectives through specific departmental operating and capital budgets (see RSA 9-B:4). This CORD sprawl status report would become the basis for the next Development Plan.

The state Development Plan could tailor different policies and goals for different regions of the state, based on comments and recommendations made by municipalities across New Hampshire. When the broad state development goals are refined and interpreted in a manner that makes sense for each region, the regional planning agencies can incorporate them into a regional plan. The regional plans and goals can in turn contribute to developing local master plans.

Implementation of this recommendation would for the first time coordinate state Development Plan policy at the state, regional, and local levels. The plan would be reexamined over a four-year cycle, with actions required to implement and evaluate results on the alternating cycle. Coordinating state

government efforts under these two statutes would also provide guidance on state goals and priorities in economic development and land protection to local officials engaged in preparing local master plans.

3. Coordinate Regional Land Use Planning with State Transportation Programs

Research shows strong links between transportation systems and land use and development patterns. More effective and coordinated planning for land use and transportation can reduce future expenditures for highway upgrades and improvements. The New Hampshire Department of Transportation (DOT) is funding highway corridor planning work with planning agencies and municipal officials that addresses traffic, land use management, mass transit, and other issues. This approach should be expanded statewide.

The collaborative access management work for Route 2 and Route 16 conducted by DOT, the Office of State Planning, regional planning agencies, and municipal officials has established standards for future corridor development. DOT is now working with regional planning agencies across the state on similar projects. This work should be expanded, and other mechanisms explored for involving stakeholders in land use planning and development initiatives for projects involving federal transportation funds. Use of Transportation Demand Management (TDM) should also be strengthened as an approach to reducing both short and long term traffic congestion, and for presenting alternative transportation options.

4. Improve Support and Strengthen Role of Regional Planning Agencies

Although development impacts are often regional, planning decisions are usually made at a local level. Transportation, environmental quality, waste management, affordable housing, and economic development are all regional growth-related issues requiring cooperation. Communities can deal more effectively with these pressing issues by working together and with the regional planning agencies (RPAs).

The role of RPAs in assisting communities to plan for, and cope with, local and regional growth and development needs improving. The dependence of regional planning agencies on local governments for funding and participation limits their ability to function. Currently RPAs receive some funds through local dues, which provide for general and technical planning assistance to member communities, and payments for special projects such as master plan updates, ordinance revisions, and capital improvement plans. RPAs also receive money from the Office of State Planning and other state agencies for work on regional projects, such as corridor studies and regional environmental projects. This report, particularly in recommendation two, places stronger emphasis on regional planning, and the importance of regional efforts working with both local and state agencies. The RPAs will play a key role in any implementation actions.

The current and potentially new duties of the RPAs, their role in working with state agencies, and their current funding level need review. Improving coordination of state funding that is provided to the RPAs is especially important. Review of the model statutes dealing with regional planning in Growing Smart Legislative Guidebook for applicability to New Hampshire is recommended.

5. *Improve Efforts to Protect Significant Farm Land, Forest Land, Natural Habitats, and Historic and Cultural Resources*

Recent decades of growth and development in New Hampshire demonstrate the need to preserve the unique character of the state's natural, agricultural, forest, and cultural landscape. One root of New Hampshire's economic prosperity is the diversity of density in its towns, cities, and villages within a predominantly rural setting. This 'green infrastructure' provides and supports the quality of life in New Hampshire in many ways: air and water quality, wildlife habitat, aesthetic character and viewsheds, recreational opportunities, and economic productivity through travel and tourism, second home development, and farming and forestry.

The recently enacted Land and Community Heritage Investment Program provided a mechanism and initial funding of \$3 million to acquire and protect important undeveloped land and historic structures. Additional funding is needed, however, preferably at the \$12 million dollar level recommended by the Land and Community Heritage Commission. State government funding can not accomplish this task alone. Public and private philanthropy partnerships should be explored to help accomplish these land protection goals. Nonprofit organizations and local governmental agencies should be encouraged to work with private property owners to conserve significant resources through acquisitions, purchase of easements, and gifts.

Other state and municipal policies, including taxation and land use regulations, should be consistent with the goal of preserving open space lands and historic structures. Local communities can greatly enhance protection of the 'green infrastructure,' biodiversity, and land and community heritage by integrating such planning information into their master plans and zoning and subdivision regulations. (See Recommendation 1.)

This study and many others on growth and development in New Hampshire demonstrate the urgent need to preserve the unique character of the state's natural and built environment. For example, the New Hampshire Ecological Reserve System Project (a statewide partnership of state natural resource agencies, private conservation organizations, scientists, land managers, landowners, and forest product industry representatives) is working to identify and protect key areas essential to preserving New Hampshire's biodiversity. The assessments and recommendations of this Project, along with numerous other studies, provide a solid basis for state action to protect New Hampshire's natural resources and biodiversity.¹⁷

17 See Steering Committee, New Hampshire Ecological Reserve System Project, *Protecting New Hampshire's Living Legacy: A Blueprint for Biodiversity Conservation in the Granite State*, Submitted to the Department of Resources and Economic Development and the Fish and Game Department, July 1998.

6. Plan for Future Development

When planning for future growth, communities need to identify areas which are inappropriate for intense (or any) development because of their natural and/or cultural resources, and also areas which are suitable for new development. Since not all new growth is likely to be accommodated in existing downtown buildings or on in-fill lots, communities should plan for where they would like new growth to occur. Many previous planning efforts have identified broad areas for future development, which has led to loss of the diversity of density that characterizes our New Hampshire landscape. Communities should consider appropriate mixed land uses, and accommodation of development nodes where greater densities of development are permitted and encouraged, rather than allowing development to spread uniformly across a section of town or along an entire highway corridor. Planning for future development needs to include protection of open space and natural and cultural resources, while allowing for diversity of land uses and development densities.

7. Strengthen Efforts to Revitalize and Redevelop Urban and Small Town Centers

Strong, vibrant downtowns and village centers were the backbone of New Hampshire's land use development patterns for more than two hundred years. Encouraging reinvestment in our urban and village centers is fundamental to pulling a community back to its core. The NH Main Street Center, Community Development Finance Authority, and other organizations are assisting a resurgence of redevelopment in New Hampshire communities. State agencies are supporting redevelopment through grant programs—e.g., the Department of Environmental Services Brownfields Assessment Program, OSP's Community Development Block Grant Program, and the Department of Cultural Resources dedication of expected conservation license plates revenue to restoration of historic structures.

More needs to be done to strengthen existing programs and seek new initiatives to enhance reinvestment. Current building codes should also be reviewed for potential barriers they may present to redeveloping older structures.

8. Address the Growing Need for Affordable Housing

The creation of housing at a variety of price levels is a fundamental principle of smart growth, and is important to maintaining the state's economic health. To promote development of a range of housing choices, communities should consider establishing mixed-use zoning districts that permit both housing, especially multi-family, and commercial uses. The state should examine ways to provide assistance and incentives to local governments to expand opportunities for adequate housing, especially less land-intensive housing types, such as multi-family, cluster, and rehabilitation of existing structures.

The New Hampshire Housing Finance Authority is a key vehicle for providing affordable housing, but even its resources are limited. Housing is becoming less affordable due to a shortage of rental units. This shortage can only be addressed in partnership with housing developers, and the state needs to be as active a partner as possible. Efforts should be renewed to ensure that these issues of housing costs and shortages are considered in the allocation of resources of the Community Development Block Grant Program, the Community Development Finance Authority, water and sewer grants from the Department of Environmental Services, and any other such resources that become available.

State government, possibly through regional planning agencies, should also provide technical assistance to communities to ensure that the need for affordable housing development is carefully considered during the preparation of local growth management policies.

9. Recognize the Impact of State and Local Government Investment Policies

The Office of State Planning (OSP) released a Report to Governor Shaheen on Sprawl, outlining a series of steps to ensure that investments by state government will not unduly contribute to sprawl in New Hampshire. Examples of recommended actions include supporting revitalization efforts by siting office buildings in downtown locations, encouraging state agencies to establish priorities for grant programs that strengthen village centers and downtown areas, and evaluating agency rule-making for cumulative impacts which contribute to sprawl in combination with other actions. A standardized state policy is also recommended for prioritizing any investments to locally designated growth areas. County and municipal governments should follow a similar policy when proposing any new facilities or capital investments. Schools, office buildings, nursing homes, and other facilities should be located where they will contribute to the vitality of civic life, in downtowns or village centers, whenever practical. A final recommendation is to strengthen funding for cleaning polluted sites (brownfields) to enhance and accelerate redevelopment.

10. Encourage Creative Local Partnerships

Several members of the Growth Management Committee believe that local planning would be most successful with the involvement of a wide range of interests—including local businesses and developers—to link land use and planning with economic development. Communities could consider establishing a broadly representative local organization, referred to as a ‘Hometown Alliance,’ to identify values important to the community. The Hometown Alliance could establish principles and practices for designing development that would minimize pollution, energy use, and habitat loss, and set performance standards for buildings, development sites, and neighborhoods.

This approach could build a broad base of community support for planning and development decisions. Although forging these kinds of partnerships may take time and effort, they offer significant potential for reconnecting community planning and development activities.

11. Improve the Management of Information Related to Growth and Development

Since the mid 1980s, the state of New Hampshire has implemented a statewide GIS (geographic information system) referred to as GRANIT (Geographically Referenced Analysis and Information Transfer). The GRANIT system represents a collaborative effort of state agencies, regional planning agencies, municipalities, federal agencies, and non-profit organizations involved in resource mapping in the state. GRANIT is administered by the University of New Hampshire Complex Systems Research Center, under the auspices of the Office of State Planning.

The NH GIS Advisory Committee, a subcommittee of the Council on Resources and Development (CORD), is writing a plan to guide the continued development and enhancement of the GRANIT system. The document will include a series of actions to stabilize the role, responsibilities, and funding of GRANIT. CORD should review, modify as needed, and endorse the strategy document so that GRANIT's role may become more widely recognized and formalized in the state.

The core element of the GRANIT system—its database—houses a series of data sets that describe the physical and natural characteristics of New Hampshire's landscape. While some gaps in specific data sets persist, GRANIT houses a mature database that can be effectively applied to a host of resource management and allocation decisions. However, the database focuses on the collection and maintenance of current, moderate scale information. For GRANIT to become an effective resource for evaluating statewide development trends, particularly at the municipal level, the focus of the database should be extended in two key areas: 1) development and maintenance of larger scale data (e.g. municipal level parcel, land use, and zoning data); and 2) construction of a historical archive to accommodate the temporal analysis of data as it changes over time. More coordination and sharing of data between all levels of government is critical to any reporting on sprawl in New Hampshire.

The state also needs to disseminate relevant growth and development information more widely to communities. Today's technology offers a variety of options for making an extensive amount of information directly available to cities and towns, as well as to residents statewide. This information may be delivered as static documents or maps, or through newer on-line mapping technologies that allow users to interact with the data. The state should expand its use of web technologies, and specifically web mapping, in key areas of concern to its citizens, particularly in areas related to growth management. To support these technologies, planning-related training courses should include computer-based skills and effective use of the Internet.

12. Consider the Effects of Transportation Policy for Employees

Transportation system design directly affects where and how people live, and how much they rely on automobiles or other forms of transportation. In Concord the state government work force alone has a significant impact on state and local roadways. To provide state and private-sector employees with transportation options and reduce single-occupancy automobile commuting, telecommuting and flexible scheduling should be encouraged. Public and private entities should explore incentives for car-pooling and promote other available transportation alternatives.

The Next Steps

Significant changes in development patterns in New Hampshire present an important challenge to residents, communities, and state leadership. We need to think and act differently in how we address growth and development, or we will lose much of the character of our state and the quality of life we value so highly.

Changing course begins with introducing new legislation, revising state and local rules and regulations, and pursuing increased funding and commitment to the Land and Community Heritage Investment Program. Because marketing these concepts is fundamental to implementing the Growth Management Committee's recommendations, we must reach developers, home and business owners, and the public in general with these messages.

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